

**Project Title:**

**Examining the Relationship Between Social Capital,  
Health Literacy, and Infant Feeding Behaviors in Low-  
Income Chinese-American Families**

**PI Name:**

**PI Contact Information:**

[REDACTED]

**Selected Funding Path:**

APA Nutrition in Underserved Communities Young  
Investigator Award

**Mentor:**

**Mentor Contact Information:**

[REDACTED]

**Division Director:**

**Department Chair:**

[REDACTED]

**Participation Statement and  
Signature:**

If selected, I commit to attending conference calls and in-  
person meetings as part of my chosen funding path.

**Signature:**

[REDACTED]

## Examining the Relationship Between Social Capital, Health Literacy, and Infant Feeding Behaviors in Low-Income Chinese-American Families, PI: [REDACTED]

**Project Aims (Figure 1).** In a cohort of low-income Chinese-American families, **AIM 1:** Examine the relationship between indicators of social capital (domains: social conditions [e.g. socioeconomic status], social norms, social support and assistance) and infant feeding behaviors (e.g. breast feeding, juice/sugar sweetened-beverage provision, early introduction of solids) **AIM 2a:** Examine the relationship between parent health literacy and infant feeding behaviors, and **2b:** whether this relationship varies in families with differing levels of social capital (overall, as well as by domain). **AIM 3 (exploratory):** Examine the relationship between social capital, infant feeding behaviors, and weight status.

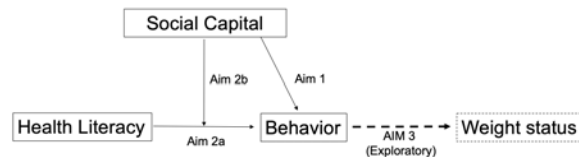


Figure 1 - Conceptual Model of Project Aims

**Background.** Infancy is a critical time for caregivers to establish recommended infant feeding behaviors essential for child obesity prevention. In populations with low health literacy, or the limited ability to obtain, process, and understand health information, addressing infant feeding behaviors such as breastfeeding, provision of juice, introduction of solid foods, and appropriate cup use is important to prevent income- and race/ethnicity-associated disparities in obesity.<sup>1,2</sup> While our team has found that easy-to-understand information about infant feeding is associated with improvements in infant feeding behavior,<sup>3</sup> little is known about how social capital, including how social support and assistance obtained through social connections can be leveraged to further optimize childhood obesity prevention efforts. Specifically, it is unknown how sources of social support and assistance (e.g. grandparents, pediatricians, other mothers in the community) differentially shape how caregivers understand and incorporate healthy infant feeding behaviors, and may have a protective effect for those with low health literacy.

Much of the research on infant feeding behaviors has focused on Hispanic and African-American populations. Few studies have focused on Asian-Americans, despite the fact that this population has grown by 72% in the US, the fastest rate of any racial/ethnic group in the country.<sup>4</sup> Asian-Americans have also displaced African-Americans as the most economically divided racial group in the US, with the fastest growing gap between the rich and the poor.<sup>5</sup> For low-income Chinese-Americans, identifying strategies to optimize infant feeding behaviors is of particular importance. Our pilot data shows that 60% of these Chinese-American caregivers have low health literacy, placing their children at risk for obesity; low health literacy is associated with lower breastfeeding rates, obesogenic feeding styles (e.g. pressuring feeding), and higher body mass index.<sup>6-8</sup> In [REDACTED], 25% of Chinese-American children aged 6-19 were classified as overweight and obese, and among boys, the prevalence was as high as 40%.<sup>9</sup> Moreover, the cardiometabolic implications of obesity in Asian-Americans begin at lower BMI thresholds.<sup>10,11</sup> Our pilot data shows that rates of poor infant feeding behaviors is prevalent in this population. Only 14% of mothers were exclusively breastfeeding at 6 months of age, consistent with other studies,<sup>12</sup> despite AAP recommendations to exclusively breastfeed for the first 6 months of life.<sup>13,14</sup> We also found that nearly 70% of 6- and 12- month old infants drink juice, despite AAP recommendations that no sugary drinks should be given under 12 months of age.<sup>15</sup>

A central construct in this proposal is social capital, which in this study specifically encompasses 3 domains: social conditions, social norms, and social support/assistance.<sup>16,17</sup> Social capital indicators have previously been associated with infant feeding outcomes; prenatal social support has been linked with healthier infant weight trajectories,<sup>18</sup> peer support with breastfeeding,<sup>19</sup> and familial support with caregiver self-efficacy in newborn care.<sup>20,21</sup> Few studies to date, however, have focused on describing the social capital of low-income Chinese-American families and its relationship to infant feeding behaviors as a foundation for early childhood obesity

prevention. **Understanding which social capital domains are associated with infant feeding behaviors, and which domains can mitigate the role of low parent health literacy, would inform the development of targeted interventions (e.g. focus efforts to build relationships between mothers to foster healthy social norms).** The PI has previously secured a small pilot grant from [REDACTED] Center for the Study of Asian American Health to support a qualitative study to characterize maternal attitudes around social support and infant feeding behaviors. In interviews with community health workers in this clinic, we already learned that less educated mothers turn to friends and family for infant feeding advice rather than to their doctors.

**Significance.** This project is innovative in that it uses a social capital framework to address a critical gap between recommended infant feeding behaviors and actual feeding practices in low-income Chinese-American caregivers. This project aligns with the mission of this call for grants to address growth and nutrition early in the life course, by broadening our perspective of the early mother-child dyad to include the surrounding social environment. Findings from this study will inform the development of a health-literacy informed intervention, allowing us to incorporate domains of social capital most strongly associated with infant feeding behaviors by either directly trying to mitigate social conditions, engaging or building relationships for mothers to foster healthy infant feeding norms, or strengthening existing social support and assistance networks.

**Methods:**

**Setting:** This proposed primary data collection project takes place at the [REDACTED] Clinic, an [REDACTED]-affiliated federally qualified health center that serves low-income, immigrant, Chinese-American families in [REDACTED].

**Inclusion/Exclusion Criteria:** 320 total child-mother dyads of Chinese descent (80 per age group – 6m, 12m, 24m, 36m). Recruited at well-child visit, full-term infant (defined as 37 weeks gestation), with no chronic conditions.

- **Outcome Variables. Primary Outcome: Infant Feeding Behaviors.** Questions modified from the National Health and Nutrition Examination Surveys, CDC's Youth Risk Behavior Survey, and Child Feeding Questionnaire<sup>22 24</sup>; optimal infant feeding behaviors will be categorized as done in prior studies<sup>2 8</sup> (e.g. breastfeeding (Y/N), sugary drinks (Y/N), solid foods prior to 6 months (Y/N), cup use (Y/N)). **Exploratory Outcome:** Child weight/height data, extracted from the EHR; overweight status (Y/N) defined with WHO guidelines (>97.7%tile).<sup>25</sup>
- **Predictor Variable, and Potential Moderating Variables: Indicators of Social Capital.** 1) Social Conditions (Measures of socioeconomic status, including parent education and employment), 2) Social norms surrounding infant feeding behavior (Adapted from Theory of Planned Behavior Questionnaires<sup>26</sup>), 3) Social Support and Assistance (Multidimensional Scale of Perceived Social Support<sup>27</sup>), Bridging Social Capital (RWJ Bridging Social Capital Survey<sup>28</sup>); scores analyzed continuously as well as dichotomized into low/high based on prior studies.
- **Predictor Variable:** Health Literacy (limited/adequate) measured using the Newest Vital Sign.<sup>29</sup>

**Analysis:** Descriptive statistics for each outcome, predictor, and moderating variable will be performed (e.g. mean(SD), median(IQR), range). Unadjusted associations between predictor and outcome variables will be assessed using  $\chi^2$ , t-tests/Mann-Whitney U tests as appropriate. Multiple linear and multiple logistic regression analyses will be used to determine associations between social capital (overall and by domain), infant feeding behaviors, and health literacy adjusting for potential confounders. Subanalyses by social capital level (top quartile vs. all others), and interaction tests using the full models, will be conducted to assess for moderation effects.

**Timeline:** To date, we have enrolled 60 subjects and expect to have recruited a total of 100 subjects by the start of the grant funding period with current volunteer staffing. With funding for a research assistant, we expect to be able to recruit an additional 200 subjects over the first 9 months of the grant period. Analyses will begin at 3-4 months with about 150 subjects, where abstracts will be developed, followed by manuscript preparation alongside conference presentations towards 9-12 months into the funding year.

## References/Citations

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### **Budget and Budget Justification**

Examining the Relationship Between Social Capital, Health Literacy, and Infant Feeding Behaviors in Low-Income Chinese-American Families

PI: XXXXXXXXXX

<b>Item</b>	<b>Detail</b>	<b>Total Amount</b>	<b>Amount requested from APA</b>	<b>Justification</b>
Research Assistant	\$18/hr for 14 hours a week over 9 months	\$9,100	\$9,100	A part-time bilingual research assistant will assist in recruitment and conducting assessments, as well as the training and supervision of a group of research volunteers. This level of funding will support ~14 hours/week, or about 3 half-day clinic sessions (including travel time), for 9 months, and will allow for coordination of the project during times when the PI has other clinical responsibilities.
Remuneration/ Patient Incentives	\$22 * 200 subjects	\$4,400	\$4,400	Funding for subject incentives for survey completion. Completion of initial survey requires approximately 1 hour, and \$20 MetroCards (subway transportation cards) will be given at the completion of the survey. \$22 includes the administrative processing cost per card. Prior studies in our division have demonstrated appropriate subject retention using this strategy.
PAS travel		\$1,500	\$1,500	PAS Travel and Hotel
TOTAL		\$15,000	\$15,000	

## BIOGRAPHICAL SKETCH

NAME: [REDACTED]

POSITION TITLE: Postdoctoral Fellow (Academic General Pediatrics)

### EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE	COMPLETION	FIELD OF STUDY
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

### A. Personal Statement

I am an Academic General Pediatrics Fellow in the Population Health Scholars program at the [REDACTED]. My research focuses on examining the relationship between indicators of social capital and health behaviors related to obesity with a particular interest in immigrant children. My goal is to be a physician-scientist who is a thought leader in leveraging social structures to build resilience and health in children from high-risk populations. The results from this proposed study will serve as a foundation for a K award.

My commitment to this topic is grounded in my clinical work where I see firsthand not only how economic stressors have a disproportionate impact on how children develop and grow, but also the protective effect of relationships between a child and his or her family, neighborhood, or community on health outcomes. My approach to addressing pediatric health disparities is innovative because while current clinical strategies mitigate family stress from material hardship by directly connecting families to immediate resources, my goal is to extend this approach by anchoring behavioral interventions to an understanding of the social context in which families live.

- 1) Identify associations between obesity-related health behaviors and measures of social capital.
- 2) Examine mechanisms of protection between social capital and obesity-related health behaviors through three main hypotheses about social capital: a) Social capital improves health information flow; b) Social capital decreases stress; c) Social capital strengthens healthy norms.
- 3) Evaluate programs and policies that promote or weaken social capital through its impact on health behaviors

I am qualified to address these questions, which require interdisciplinary methods that span pediatrics, population health, public policy, and social science. During medical school, I also completed a master in public policy where I trained in data science, geographic information systems, and impact evaluation. This year, I was selected to be an Early Career Interdisciplinary Scholar by the Society for Child Development, which is a select track to nurture researchers with exceptional potential to conduct interdisciplinary research.

## B. Positions and Honors

### Positions

[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

### Honors

[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

### Other Experience and Professional Memberships

2019-present	Fellow Representative Member, Academic General Pediatrics Accreditation Committee, Academic Pediatric Association
[REDACTED]	[REDACTED]
2018-present	Member, Academic Pediatric Association
[REDACTED]	[REDACTED]

## C. Contributions to Science

### ***1. Identifying associations between indicators of social capital and pediatric health behaviors and outcomes.***

I have identified associations between pediatric health behaviors such as a child's sugar-sweetened beverage habits, school engagement in children with ADHD, sleep duration in toddlers, and indicators of social capital such as beverage preferences of a child's immediate social network, family cohesion and community support, and family cohesion around regular bedtime routines. This work contributes to an understanding of children's health behaviors and demonstrates that effective child-level health interventions may require the engagement of a child's immediate family and community.



[REDACTED]

**2. Health Disparities in Obesity-Related Behaviors in Immigrant Asian Populations**

I currently have a pilot project grant from the Center for the Study of Asian American Health for a study located at the [REDACTED] Clinic at [REDACTED]. This is a qualitative project to characterize maternal attitudes around social support and infant feeding behaviors.

I have also completed a study of immigration related factors on screen time in Chinese-American infants. I found that the experience of migration and caregiver English proficiency had differential impacts on screen time exposure in infants. This study extends knowledge about the relationship between stressors and screen time exposure, and adds important information on screen time use in Chinese-American infants, an important developmental health behavior which has been understudied in this population; a manuscript is in preparation,

In a study of Asian kindergarteners in a national survey sample from the ECLS-K cohort, my co-authors and I have identified variation between parent and teacher rating of internalizing and externalizing behaviors. This discrepancy highlights a potential barrier to screening for mental health in Asian children. We are now extending this disparities study to look at BMI and potential relationships with anxiety.

[REDACTED]

**3. Quality Improvement/Implementing High Value Care in Pediatric Teaching Hospitals**

From my public policy exposure to program sustainability and my leadership experience as chief resident, I have developed experience in efficient use of institutional capital and an interest in engaging teams in practicing high value care.

PubMed Bibliography: [REDACTED]

#### D. Additional Information: Research Support and/or Scholastic Performance

### Ongoing Research Support

[REDACTED]

**BIOGRAPHICAL SKETCH**

Provide the following information for the Senior/key personnel and other significant contributors.  
Follow this format for each person. **DO NOT EXCEED FIVE PAGES.**

NAME: [REDACTED]

eRA COMMONS USER NAME (credential, e.g., agency login): [REDACTED]

POSITION TITLE: Associate Professor of Pediatrics and Population Health

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

**A. Personal Statement**

I will serve as primary mentor to Dr. [REDACTED] on this proposal for an APA Young Investigator Award, which focuses on examining the interrelationships between social resources, health literacy, and infant feeding behaviors among low income Chinese-American immigrant parents. Findings will help inform the adaptation of a primary-care based intervention for early child obesity prevention for Chinese-American families. I have served as Dr. [REDACTED]'s primary mentor over the past 1½ years, during her Academic General Pediatric fellowship. Dr. [REDACTED]'s project leverages the infrastructure of an existing obesity prevention project that I oversee which takes place at a clinic in [REDACTED] that serves low income, Chinese-American immigrants.

I believe I have the skills and expertise to serve as Dr. [REDACTED]'s primary mentor. Over the past 10 years, my research has centered on health literacy as a key factor related to adverse health outcomes and poverty-associated disparities; a specific area of focus has been the development, implementation, evaluation, and dissemination of health literacy-informed communication strategies spanning preventive, acute, and chronic care. Currently, I serve as PI of 2 multi-site NIH/NICHD-funded R01 studies centered on health literacy-informed interventions. I am PI of a multi-site multi-PI R01 to evaluate the effectiveness of a primary care-based literacy- and numeracy- focused intervention to prevent childhood obesity, which includes a low literacy toolkit as well as health provider training in evidence-based health literacy-informed communication strategies; this project targets low income Hispanic and African-American families. I am also PI of a NIH-funded study to develop and evaluate a patient-centered labeling and dosing strategy for pediatric liquid medications which incorporates evidence-based 'best practices' with respect to label instructions and measuring devices. My work on health literacy-informed interventions has been featured in publications by the Joint Commission and American Academy of Pediatrics (AAP), and was the focus of my work as a RWJ Foundation Physician Faculty Scholar and a Pfizer Fellow in Clear Health Communication.

My work in health literacy extends beyond development of health literacy-informed tools; I led a team from the AAP's Health Literacy Project Advisory Committee to first author the first publication examining parent health literacy using a nationally representative sample (secondary data analysis, 2003 NAAL) in *Pediatrics*, which included an analysis of the relationship between parent health literacy and child health insurance, as well as an exploration of health literacy as a mediator of health disparities. My expertise has led to numerous leadership positions. I am an Executive Committee Member of the AAP's Council on Quality Improvement and Patient Safety and served on the FDA's Risk Communication Advisory Committee. I have provided health literacy expertise to numerous national groups, including the AAP, CDC, and IOM.

In addition to my research, policy, and public health-related work, I also have significant teaching and mentoring experience. I serve as key faculty and mentor within the Department of Pediatrics General Academic Fellowship program, the NRSA T32 Postdoctoral Primary Care Research Training Program, the AHRQ-funded [REDACTED] Training Program in Healthcare Delivery Science and Population Health, and the Department of Pediatrics Residency Program; I also co-Direct the Pediatric Department's Medical Student Summer Research Fellowship Program. At a national level, I have served as core faculty in the Academic Pediatric Association's (APA) Research Scholars Program for 5+ years, a competitive national research training program, where I have mentored 3 cohorts of post-doctoral early career scholars. I believe I have the skills/expertise to successfully mentor Dr. [REDACTED], preparing her to become an independent investigator.

**Most Relevant Publications to this Project** (first-authored publications by mentees):

[REDACTED]

**B. Positions and Honors**

**Positions and Employment**

[REDACTED]

**Other Experience and Professional Memberships**

2006- [REDACTED]  
Member, Academic Pediatric Association (APA)

[REDACTED]

**Honors**

[REDACTED]

## C. Contributions to Science

### 1. *Studies of innovative health literacy-informed interventions to reduce medication errors in children.*

I have led several studies of health literacy-informed interventions to promote safe parent medication use. I am PI of the [REDACTED] study, an NIH/NICHHD-funded R01 to use a health literacy approach to identify specific attributes of medication labels/dosing tools which can be optimized to reduce errors (units of measurement, pictograms, tool design [type, markings, capacity]); an ED RCT testing a comprehensive Rx labeling/dosing strategy is underway. Findings have been used to help inform national labeling/dosing standards. I am also PI of the [REDACTED] Project, an RWJF-funded project (Physician Faculty Scholars Program) to examine the effectiveness of a low literacy EHR-linked tool to enhance provider medication counseling. I led development of the web-based intervention (bilingual, pictographic, medication instruction sheets, demonstration/teachback, oral syringe provision), and conducted the ED RCT efficacy study which demonstrated large reductions in dosing errors and improved adherence. I spearheaded integration of [REDACTED] into a local EHR which enabled us to conduct a pre/post-implementation effectiveness study that found similar reductions in errors. [REDACTED] has been cited as a model for delivery of quality clinical care by the AAP and the Joint Commission.

#### Relevant Publications

### 2. *Studies of provider communication-based health literacy interventions in prevention and disease management.*

I am PI of a multi-site, multi-PI NIH/NICHHD-funded R01 (cluster randomized trial) to examine whether [REDACTED] a low literacy/numeracy-focused toolkit, used as part of well-child visits in the first 2 years of life, will result in improved behaviors and decreased obesity. I spearheaded toolkit development (plain language booklets with age-appropriate messages, "tangible tools" such as portion size snack cups). Early promising findings (more breastfeeding, less juice, less TV), led to a competing renewal R01 to continue following our cohort, allowing us to look at the impact of the intervention on parent behaviors and child obesity trajectories through age 5. I am PI of a NIH/NYU CTSI-funded project, [REDACTED], to develop and pilot test the efficacy of a low literacy web-accessible asthma action plan support tool for providers and parents. Use of the tool is associated with vastly improved provider counseling, including improved plain language counseling, and more comprehensive coverage of key management issues.

#### Relevant Publications



### **3. Studies using a health literacy approach to identify barriers that contribute to medication errors.**

My research showed that higher rates of parent dosing errors are associated with use of teaspoon/tablespoon terms, nonstandard kitchen spoon use, and use of certain standard dosing tools (eg. more errors with cups compared to oral syringes). This research provided key evidence for a national move to an “mL”-exclusive system (avoidance of “spoon”-based dosing), informing CDC and FDA support for this change, which is also endorsed in an AAP Policy Statement (March 2015) and in a 2014 guidance from the National Council for Prescription Drug Programs (NCPDP). I published a study in *JAMA* which showed that nearly all top-selling US pediatric liquid medicines were inconsistent in units used on labels and associated dosing tools.

My research also documented a high rate of parent confusion with use of OTC infant acetaminophen (3x more concentrated than the children’s version). Confusion between formulations has led to cases of significant morbidity, including death. My research was presented at an FDA Advisory Committee meeting on Acetaminophen (June 2009), during which a recommendation was made to move to a single concentration of liquid acetaminophen (elimination of infant version).

#### Relevant Publications

[REDACTED]

### **4. Studies establishing health literacy as an important pediatric issue linked to child health outcomes.**

I first-authored the first paper documenting the rate of low parent health literacy in the US (1 in 4 parents; 2003 National Assessment of Adult Literacy) in *Pediatrics*; low health literacy was associated with lack of child health insurance. Health literacy was also found to be a potential mediator of disparities. I am nationally recognized for my research linking low parent health literacy to issues such as medication errors, worse asthma-related knowledge, obesogenic feeding/physical activity-related behaviors, and decreased shared decision-making.

#### Relevant Publications

[REDACTED]

### **5. Studies examining intersection between limited English proficiency (LEP) and health literacy, with a particular focus on Hispanic populations.**

I am nationally recognized for my work in this area. As co-leader of a team of health literacy and LEP experts, I helped design intervention materials to improve how patients, families, and staff communicate during family-centered rounds as part of the national Patient and Family-centered I-PASS initiative; the intervention was associated with a 40% reduction in preventable adverse events; families who were not comfortable speaking in English differentially benefitted from intervention receipt. My research also found that Hispanic families with both LEP and low health literacy are at particular risk for dosing errors. In addition, I led the validation study for a new Spanish parent health literacy assessment.

#### Relevant Publications

[REDACTED]

See MyBibliography:

**D. Additional Information: Research Support and/or Scholastic Performance**

**Ongoing Research Support**

**Completed Support**

# School of Medicine

November 10, 2019

Dear APA Nutrition in Underserved Communities Young Investigator Award Selection Committee,

I am writing this letter in strong support of [REDACTED], MD, MPP as her mentor in her proposal for the APA Nutrition in Underserved Communities Young Investigator Award. Dr. [REDACTED] is a second year Academic General Pediatrics fellow (HRSA T32 Postdoctoral Primary Care Research Training Program) at [REDACTED]. I have had the pleasure of being her mentor since July 2018.

Dr. [REDACTED]'s research interests center on studying community health using a social networks framework. On a path to pursuing a career in academic medicine, she has specifically focused on the intersection between social networks, social determinants of health, and resilience. Dr. [REDACTED]'s interest in communities stemmed from her experience working on the Obama for America primary campaign in New Hampshire where she saw how people can be mobilized to vote through word of mouth and community organizing, leading to increased voting booth turnout despite severe weather conditions. This interest continued to grow during her pediatric residency at the [REDACTED], where she saw firsthand the barriers her patients faced, and how supportive communities and neighborhoods played an important role in making health behaviors "stick." These experiences led her to conduct a research project to examine sugar-sweetened beverage consumption in the context of a child's immediate social network, and a second project that she has published to identify community-level factors in ADHD clinical outcomes. Determined to address these issues not only as a research interest, but also on the ground, Dr. [REDACTED] co-founded and co-leads (with an [REDACTED] charter school educator), a community organization to bring social science principles to community health programs in the [REDACTED] charter school network as well as the [REDACTED] high school enrichment program; her commitment to this work over the past 5 years has helped her develop the skills to align agendas and collaborate productively with community partners. As a chief resident, Dr. [REDACTED] also took on a role as an educator, creating a social determinants of health curriculum for the pediatric residency program and teaching a modified version of the course for third year medical students during their pediatrics clerkship.

For the present proposal, Dr. [REDACTED] is seeking to build on her prior work by studying the role of social capital and parent health literacy on infant feeding behavior, with the overarching goal of identifying strategies to strengthen family and community-level factors that can support the effective dissemination of health information to combat early childhood obesity. In addition, she plans to develop career expertise in working with Asian-American populations and factors contributing to health disparities in the Asian-American community. She is a fluent Mandarin speaker, and has already been engaged in working on the design and administration of survey measures at the [REDACTED] clinic, an [REDACTED] affiliated federally qualified health center (FQHC) that serves low socioeconomic status immigrant, Chinese-American families in [REDACTED]. She has also completed a secondary data analysis of data collected at another [REDACTED] FQHC site serving Asian-Americans, where she examined screen time, migration, and acculturation in Chinese-American infants, given the important role that screen time may play in the development of early childhood obesity; a manuscript is currently in development.

To date, there has been limited study of early childhood obesity, especially in Chinese-American immigrant populations. The products of this study will be used to help shape plans for a social support-informed health literacy intervention that will leverage technology-based approaches (e.g. texting, social media) to improve infant feeding and healthy weight trajectories in this population at the [REDACTED] Clinic. Dr. [REDACTED]'s study



is feasible and innovative, and the first to our knowledge to address the intersection between social capital factors and health literacy-related infant feeding issues in this population, filling an important gap in the literature. I am confident that she will be able to successfully accomplish the proposed study aims. Dr. [REDACTED] has already obtained funding provided by [REDACTED]'s Center for the Study of Asian-American Health (CSAAH) a qualitative study to examine these issues. The additional APA funds will support her ability to conduct the quantitative study, including covering needed costs for a research assistant as well as patient incentives.

We have been very impressed by Dr. [REDACTED]'s high level of productivity prior to and during her fellowship. In addition to embarking on the studies described above, during her first year of fellowship, she published two first author manuscripts, one on social networks and sugar-sweetened beverages and another on community support and ADHD outcomes. She has presented numerous times at the Pediatric Academic Societies (PAS) and Academic Pediatric Association meetings; her work on resilience was presented as a platform presentation at PAS in 2018. During residency, she won the Chairman's Award for Distinction in Research, and the Outstanding Senior Resident Research Award. Most recently, she was recognized as an Early Career Interdisciplinary Scholar by the Society for Research in Child Development in an international competition.

I would like to comment on my qualifications as Dr. [REDACTED]'s primary mentor. I am an Associate Professor of Pediatrics and Population Health at the [REDACTED], with tenure. I am an NIH-funded researcher focused on examining the impact of parent health literacy on children's health, and have substantial expertise in the development of health literacy-informed interventions. Currently, I serve as PI of 2 NIH/NICHD-funded R01 studies centered on the development and evaluation of health literacy-informed interventions - a multi-site grant on pediatric liquid medication dosing and labeling, as well as a multi-site multiple PI trial of [REDACTED], a low literacy- and numeracy-focused intervention to prevent early childhood obesity; I am also PI of a newly funded MPI study funded by PCORI to examine the impact of a health literacy-informed early child obesity prevention intervention compared to a technology-enhanced version. I led the cultural adaptation of the [REDACTED] early child obesity prevention intervention for the Chinese American population - in close collaboration with the [REDACTED] Community Health Center, and now lead the current expansion work to the [REDACTED] clinic. The proposed project will leverage the infrastructure I have established at this site. My work on health literacy-informed interventions has been featured in the Joint Commission Resources publication "Addressing Patients' Health Literacy Needs" as well as the AAP's "Plain Language Pediatrics" book, and was the focus of my work as a RWJF Physician Faculty Scholar and a Pfizer Fellow in Clear Health Communication. I have provided health literacy expertise nationally to groups like the American Academy of Pediatrics and the Institute of Medicine, as well as locally, to the [REDACTED] Mayor's Office.

In addition to my research, policy, and public health-related work, I also have significant teaching and mentoring experience. I serve as key faculty and mentor within the Dept. of Pediatrics General Academic Fellowship program, the NRSA T32 Postdoctoral Primary Care Research Training Program, and the Dept. of Pediatrics Residency Program, and also co-Direct the Department's Medical Student Summer Research Fellowship Program, which includes overseeing the Introduction to Clinical Research Methods curriculum. I serve as a seminar leader for the APA's Research Scholars program. My mentees have received young investigator awards, have been invited to present at national research meetings, and have co-authored numerous publications. I believe I have the skills and expertise to successfully mentor Dr. [REDACTED], guiding her in her proposed research, which sits at the intersection of social capital-related factors and health literacy.

As Dr. [REDACTED]'s primary mentor, I will continue to provide substantial support for her work. I will meet with her every week to discuss her study progress, data analysis, abstract and manuscript write-up, and presentation at the Pediatric Academic Societies national meeting. Dr. [REDACTED] will receive additional mentorship on early infant feeding from Dr. [REDACTED], and the development of social behavioral change strategies and epidemiological methodology from Dr. [REDACTED]. For mentorship related to study design, management of a research team, and data analysis, her team includes Drs. [REDACTED]

and [REDACTED]. Dr. [REDACTED] is receiving additional training in research methods, study implementation, and statistical analysis through her concurrent Master of Science in Clinical Investigation training. Dr. [REDACTED] has our full support, as well as support from our “labs” of experienced research staff.

In summary, Dr. [REDACTED] is a highly intelligent, motivated pediatrician who is likely to become a leader in the field of community health. Receipt of the APA’s support for this pilot project would help Dr. [REDACTED] to build on her already promising work while providing her with the foundation for becoming an independent investigator; findings from the proposed study will be used as preliminary data for a K grant application. I consider Dr. [REDACTED] to be an exceptionally strong candidate for this award. It is my great pleasure to write the strongest letter possible in support of Dr. [REDACTED]'s proposal.

Thank you for your consideration.

Sincerely,

[REDACTED]

[REDACTED]



28 October, 2019

Dear Selection Committee,

It is with great enthusiasm that I write this letter in support of Dr. [REDACTED] application for the APA Nutrition in Underserved Communities Young Investigator Award. I am writing in my capacity as Core Director for a collaborating research center that selected Dr. [REDACTED] s qualitative pilot project, *"Infant Feeding Literacy and Social Support Networks in Immigrant Chinese-American Caregivers"* for award in the spring of 2019 because of its merit and potential for sustainability and expansion, and alignment with our network's goals. The Center for the Study of Asian American Health (CSAAH) is a NIH National Institute on Minority Health and Health Disparities funded National Research Center of Excellence based in the Section for Health Equity within the Department of Population Health at [REDACTED]. We are the only Center of its kind in the country that is solely dedicated to research and evaluation on Asian American health and health disparities, committed to reducing health disparities through research, training, and partnership.

Our overarching goals are to address health disparities in Asian Americans, the fastest growing population in the United States, yet largely passed over in the national dialogue and in scientific research. Consistent with CSAAH overarching strategies, Dr. [REDACTED] study is rooted in a social determinants of health approach by linking multicultural and social factors with measurable population health outcomes related to child obesity, a critical population health challenge. By design, her study incorporates health equity principles in its mission to identify not only unique vulnerabilities, but also unique social structure strengths in this population to guide future implementation and study of a social support-informed health literacy intervention to improve infant feeding. We are committed to supporting her efforts to use preliminary results from her qualitative work understanding patient perspectives about the impact of social networks on infant feeding decision-making as a foundation for her expansion into a quantitative study.

Dr. [REDACTED] s research career will continue to follow this project from these initial findings to designing and studying the subsequent intervention. She is supported by her primary mentor Dr. [REDACTED] whose leads [REDACTED], a low literacy- and numeracy-focused intervention to prevent early childhood obesity at the [REDACTED] clinic, and Dr. [REDACTED] s work will inform plans for a social support-informed health literacy intervention that will leverage technology-based approaches (e.g. texting, social media) to improve infant feeding and healthy weight trajectories in this population. Findings from Dr. [REDACTED] s study will bridge a substantive gap in the literature regarding low-income Chinese-American immigrants, providing information about how to effectively disseminate feeding best practices and leverage social capital to identify key stakeholders in the this population.

CSAAH has the local infrastructure and mentorship to support Dr. [REDACTED] in the continued success of her project. We are able to support her with senior mentorship, I meet with her

personally quarterly to discuss project progress, goals, and integration of the project with her own career plans. We organize monthly lunch talks where investigators working in the Asian-American community meet to discuss current topics, successes, challenges, and potential collaborations. Our in-kind infrastructure supports her with experienced community health workers to bridge partnerships with the community, literature expertise in identifying the best validated methods of collecting information, and faculty mentorship support with experience in this community.

Dr. [REDACTED] is equipped with skills, passion, and commitment, and is poised to become a leader in pediatrics and population health research. We are committed to her utilizing CSAAH's resources to support not only the success of her study, but also her professional path to becoming an independent investigator and interdisciplinary leader in this field. Thank you for your consideration.

Sincerely,

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